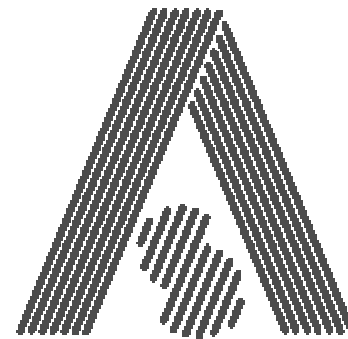


Software Smart Cards via Cryptographic Camouflage

Ram Varadarajan



Arcot Systems, Inc.

Authenticating the Internet™

The Problem



“On the Internet, no one knows you’re a dog”

State of Practice



Current approaches do not scale for the Internet

- User names & passwords
 - | Not secure
 - | Difficult to administer in volume
- Hardware tokens, smart cards/readers
 - | Expensive
 - | Not deployable in volume

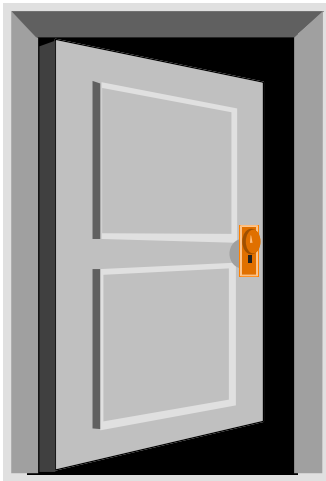
Arcot's Breakthrough



**Software-based user authentication built on
Cryptographic Camouflage technology**

- Delivers the security of a hardware solution
- With the advantages of a PKI-based software solution

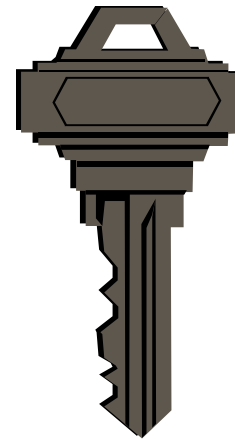
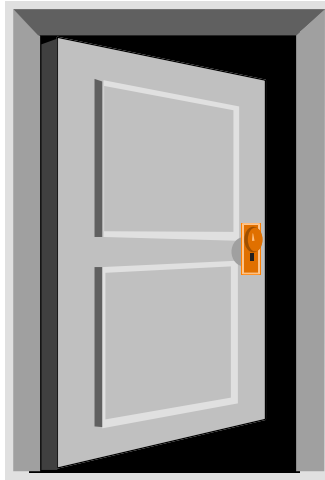
Login Passwords



Advantage: Key is small and portable

Disadvantage: Weak Locks

PKI: Software Key Container

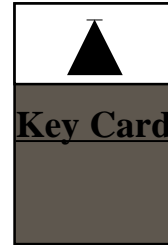
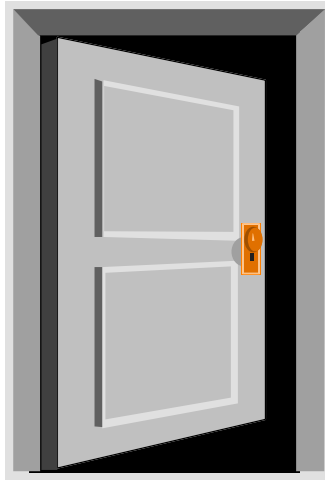


Advantage: Strong Locks

Disadvantage: Key is large and not portable.

Solution: Leave key under doormat

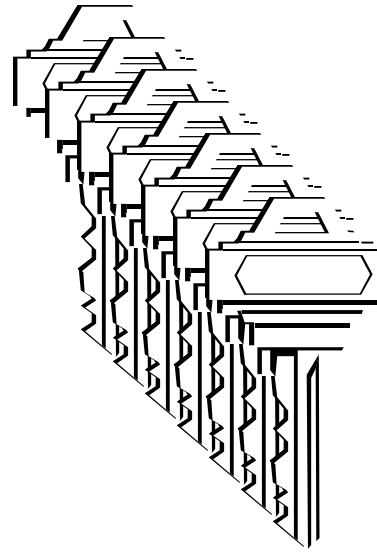
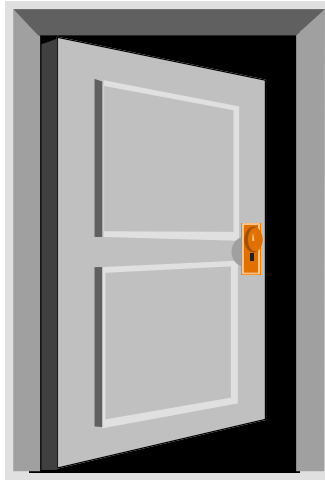
PKI: Smart Cards



Advantage: Strong locks
Key card is portable

Disadvantage: Expensive
High administrative overhead

PKI: Camouflaged Key Container



Arcot solution: Thousands of keys under doormat.

- Strong lock
- Correct key is easily located by user
- All keys look plausible to intruder
- Spurious keys set off alarms

Products



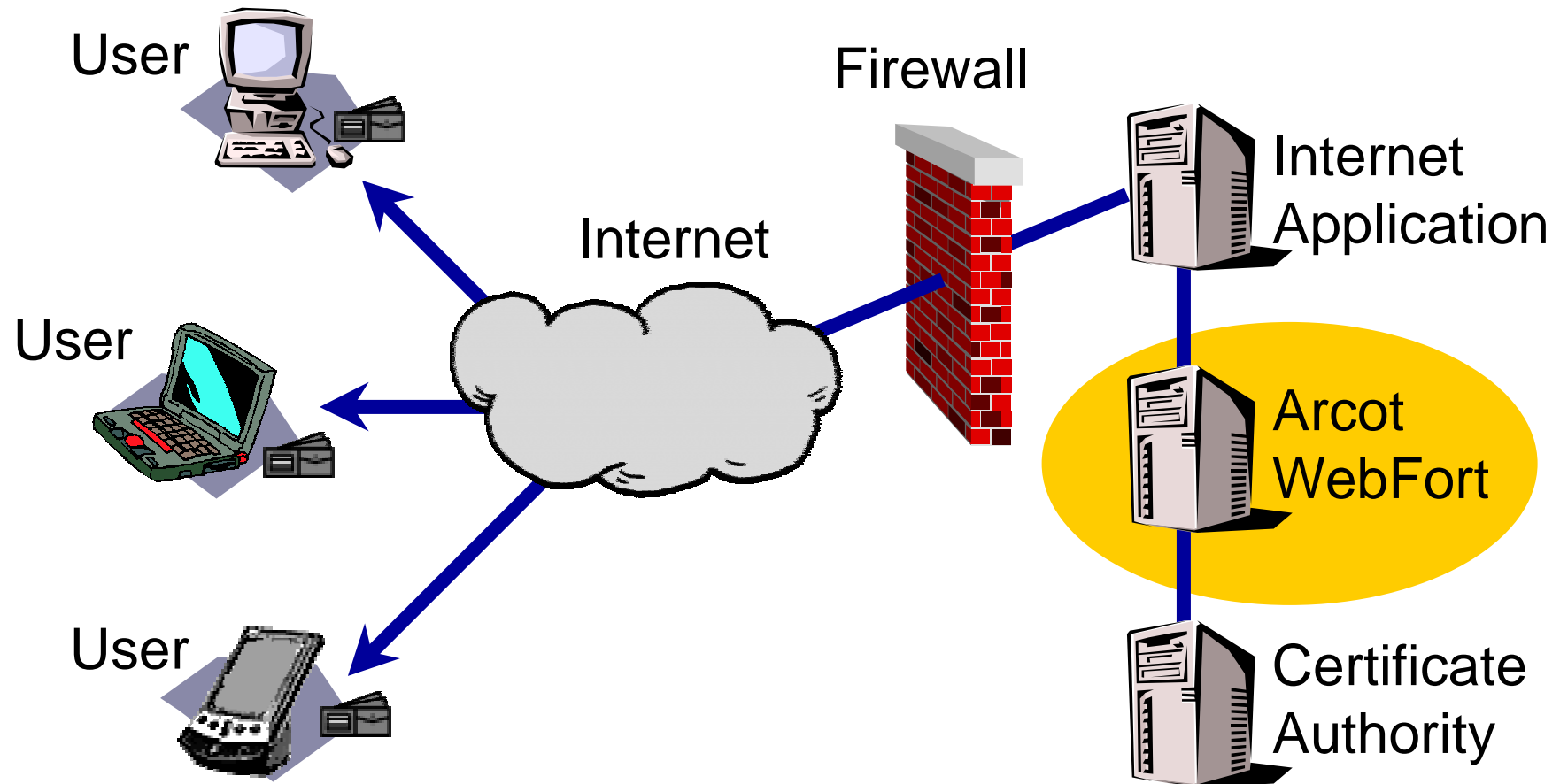
- WebFort
 - Web Authentication Solution
- LocBox
 - Single Sign-On for Digital Information
- VPN
 - IPSEC Authentication
- Payments
 - Card holder authentication

Arcot WebFort™



- Scalable user authentication for Internet applications
- Easy integration with applications
- Security through camouflage technology
- Convenient deployment
- Support for roaming users

Architecture



Pricing Model



Annual Licensing Fees

Number of users	Price / user
10,000	\$15
100,000	\$5
1,000,000	\$2

Competition

	Smart cards & hardware tokens*	Arcot WebFort
Security	✓	✓
Scalability	✗	✓
Convenience	✗	✓
Economy	✗	✓

Summary



Arcot ...

accelerating the deployment of PKI